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FERRELLS, PLLC			CHOI, PETER Y	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/883,520	PARSONS ET AL.	
	Examiner	Art Unit	
	Peter Y. Choi	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 06 March 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-6,8-13,16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 2-6,8-13,16 and 18-25 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

NON-FINAL ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 6, 2007, has been entered.

Claim Objections

2. Claim 22 is objected to because of the following informalities: the claim recites "from 0 to 99 percent by weight of at least one non-hydrophilic monomer". It appears that the claim should recite "at least one non-hydrophilic monomer". Appropriate correction is required.

Claim Rejections - 35 USC § 102/103

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8, 10, 13, 18-24 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,521,266 to Lau.

Regarding claims 18-22, Lau teaches a non-woven material comprising a web of fibers, and a latex polymer binder applied to the web of fibers, wherein said latex polymer binder has a glass transition temperature of from -40°C to 105°C and comprises a polymer component which includes from 1 to 100 weight percent of a hydrophilic monomer, and from 0 to 99 percent by weight of at least one non-hydrophilic monomer and a polymeric colloid component, wherein said polymer component is emulsion polymerized using said colloid component as a stabilizer, (see entire document including column 2 lines 27-52, column 4 lines 9-37, column 5 line 7 to column 6 line 11, column 8 lines 12-24, Table 5.1).

Regarding claims 18-22, Lau does not appear to teach that the latex polymer composition forms films that are dispersible in tap water, and non-dispersible in aqueous solutions containing 0.5 weight percent or more of an inorganic salt. However, the claimed property is deemed to be inherent to the structure in the prior art since the Lau reference teaches an invention with a similar structural and chemical composition as the claimed invention. Properties are the same when the structure and composition are the same. The burden is on the Applicants to prove otherwise.

Regarding claim 18, the hydrophilic monomer is selected from the group consisting of an acidic monomer containing a carboxylic acid moiety, dicarboxylic acid moiety, a sulfonic acid moiety, or combinations thereof (column 5 lines 7-25).

Regarding claim 19, the hydrophilic monomer is selected from the group consisting of acrylic acid, methacrylic acid, and combinations thereof (column 5 lines 7-25).

Regarding claim 20, the non-hydrophilic monomer is selected from the group consisting of (meth)acrylates, maleates, (meth)acrylamides, vinyl esters, and combinations thereof (column 4 lines 9-37).

Regarding claim 21, the non-hydrophilic monomer includes (meth)acrylates (column 4 lines 9-37).

Regarding claims 8, 10, 13, 23, and 24, Lau teaches a non-woven material comprising a web of fibers, and a latex polymer binder applied to the web of fibers, wherein said latex polymer binder has a glass transition temperature of from -40°C to 105°C and comprises a polymer component which includes at least one hydrophilic monomer selected from the group consisting of acidic monomers containing a carboxylic acid moiety, dicarboxylic acid moiety, a sulfonic acid moiety, or combinations thereof; and at least one non-hydrophilic monomer selected from the group consisting of (meth)acrylates, maleates, (meth)acrylamides, vinyl esters, and combinations thereof, and a polymeric colloid component, wherein said polymer component is emulsion polymerized using said colloid component as a stabilizer, (see entire document including column 2 lines 27-52, column 4 lines 9-37, column 5 line 7 to column 6 line 11, column 8 lines 12-24, Table 5.1).

Regarding claims 8, 10, 13, 23, and 24, Lau does not appear to teach that the latex polymer composition forms films that are dispersible in tap water, and non-dispersible in aqueous solutions containing 0.5 weight percent or more of an inorganic salt. However, the claimed property is deemed to be inherent to the structure in the prior art since the Lau reference teaches an invention with a similar structural and chemical composition as the claimed invention.

Regarding claim 8, the binder further comprises a lotion containing at least one ingredient selected from the group consisting of sodium chloride solution, preservatives, boric acid, bicarbonates, moisturizers, emollients, surfactants, humectants, alcohols, water, and fragrances (column 5 line 63 to column 6 line 11).

Regarding claim 10, a non-woven article comprises the claimed non-woven material (column 8 lines 12-24).

Regarding claim 13, the Lau reference does not appear to disclose a wet tensile strength in 3 percent aqueous inorganic salt solution of at least 100 g/in, and a wet tensile strength in tap water of at least 40 g/in. However, the claimed properties are deemed to be inherent to the structure in the prior art since the Lau reference teaches an invention with a similar structural and chemical composition as the claimed invention.

Regarding claim 24, the colloid is present in the latex polymer in amounts of from 1 to 75 weight percent based on polymer solids (column 5 line 63 to column 6 line 11).

5. Claims 8, 10, 13, 18-23 are rejected under 35 U.S.C. 102(b) as being anticipated by, or alternatively under 35 U.S.C. 103(a) as obvious over, USPN 5,631,317 to Komatsu.

Regarding claims 18-22, Komatsu teaches a non-woven material comprising a web of fibers, and a latex polymer binder applied to the web of fibers, wherein said latex polymer binder has a glass transition temperature of from -40°C to 105°C and comprises a polymer component which includes from 1 to 100 weight percent of a hydrophilic monomer, and from 0 to 99 percent by weight of at least one non-hydrophilic monomer and a polymeric colloid component, wherein said polymer component is emulsion polymerized using said colloid component as a stabilizer,

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and wherein said latex polymer composition forms films that are dispersible in tap water, and non-dispersible in aqueous solutions containing 0.5 weight percent or more of an inorganic salt (see entire document including column 1 lines 7-48, column 2 lines 21-67, Example 10, column 4 lines 14-24, column 5 lines 1-61).

It should be noted that the Declaration of October 26, 2006, page 5, section 10, states, "It would be within the general knowledge of those skilled in the polymer arts to make a resin with the claimed glass transition temperature of -40°C to +105°C. That the Tg of the polymer can be easily controlled by the monomer composition, based on the Tg of the individual monomers."

In the event it is shown that Komatsu does not appear to teach the polymeric colloid component, it should be noted that the Declaration of March 6, 2007, page 2, section 5, states, "Generally, in emulsion polymerization processes, a stabilizing agent is proved to an aqueous medium where the stabilizing agent may include surfactants, emulsifiers, protective colloids or the like."

Regarding claim 18, the hydrophilic monomer is selected from the group consisting of an acidic monomer containing a carboxylic acid moiety, dicarboxylic acid moiety, a sulfonic acid moiety, or combinations thereof (column 2 lines 20-67).

Regarding claim 19, the hydrophilic monomer is selected from the group consisting of acrylic acid, methacrylic acid, and combinations thereof (column 2 lines 20-67).

Regarding claim 20, the non-hydrophilic monomer is selected from the group consisting of (meth)acrylates, maleates, (meth)acrylamides, vinyl esters, and combinations thereof (column 2 lines 20-67, column 4 lines 7-24).

Regarding claim 21, the non-hydrophilic monomer includes (meth)acrylates (column 4 lines 7-24).

Regarding claim 8, 10, 13, and 23, Komatsu teaches a non-woven material comprising a web of fibers, and a latex polymer binder applied to the web of fibers, wherein said latex polymer binder has a glass transition temperature of from -40°C to 105°C and comprises a polymer component which includes at least one hydrophilic monomer selected from the group consisting of acidic monomers containing a carboxylic acid moiety, dicarboxylic acid moiety, a sulfonic acid moiety, or combinations thereof; and at least one non-hydrophilic monomer selected from the group consisting of (meth)acrylates, maleates, (meth)acrylamides, vinyl esters, and combinations thereof, and a polymeric colloid component, wherein said polymer component is emulsion polymerized using said colloid component as a stabilizer, and wherein said latex polymer composition forms films that are dispersible in tap water, and non-dispersible in aqueous solutions containing 0.5 weight percent or more of an inorganic salt (see entire document including column 1 lines 7-48, column 2 lines 21-67, Example 10, column 4 lines 14-24, column 5 lines 1-61).

It should be noted that the Declaration of October 26, 2006, page 5, section 10, states, "It would be within the general knowledge of those skilled in the polymer arts to make a resin with the claimed glass transition temperature of -40°C to +105°C. That the Tg of the polymer can be easily controlled by the monomer composition, based on the Tg of the individual monomers."

In the event it is shown that Komatsu does not appear to teach the polymeric colloid component, it should be noted that the Declaration of March 6, 2007, page 2, section 5, states, "Generally, in emulsion polymerization processes, a stabilizing agent is proved to an aqueous

medium where the stabilizing agent may include surfactants, emulsifiers, protective colloids or the like."

Regarding claim 8, the binder further comprises a lotion containing at least one ingredient selected from the group consisting of sodium chloride solution, preservatives, boric acid, bicarbonates, moisturizers, emollients, surfactants, humectants, alcohols, water, and fragrances (column 1 lines 7-13).

Regarding claim 10, a non-woven article comprises the claimed non-woven material (column 5 lines 58-61).

Regarding claim 13, the Komatsu reference does not appear to disclose a wet tensile strength in 3 percent aqueous inorganic salt solution of at least 100 g/in, and a wet tensile strength in tap water of at least 40 g/in. However, the claimed properties are deemed to be inherent to the structure in the prior art since the Komatsu reference teaches an invention with a similar structural and chemical composition as the claimed invention.

In the event it is shown that the Komatsu reference does not disclose the claimed invention with sufficient specificity, the invention is obvious because the Komatsu reference discloses the claimed constituents and discloses that they may be used in combination.

Response to Arguments

6. Applicants' arguments and Declaration filed March 6, 2007, have been fully considered but they are not persuasive. First, Applicants argue that Komatsu teaches solution polymerization techniques as opposed to emulsion polymerization techniques, specifically that the process of Komatsu is a single-phase polymerization process. Second, Applicants argue that

emulsion polymerization techniques enable the production of high solids compositions. Third, Applicants argue that the emulsion structure of the latex polymer enables the resin to quickly disperse in water, even when using relatively less hydrophilic monomers such as methacrylic acid, wherein the polymers of Komatsu require large amounts of extremely hydrophilic monomers such as acrylic acid to maintain water dispersibility.

Regarding Applicants first argument, Examiner respectfully disagrees. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.

Applicants' Affidavit has been considered, wherein paragraph 5 refers to a latex comprising a plurality of small polymer particles surrounded by the stabilizing agent which are dispersed in the aqueous medium. However, Applicants' Affidavit appears directed to the intermediate product wherein the polymer component is emulsion polymerized. The final product wherein the polymer component and polymeric colloid component are applied to the nonwoven and then dried, does not appear to be differentiated from the product taught by Komatsu (Applicants' specification, Examples 1-8). The final product of both the claimed invention and Komatsu is a latex binder comprising a polymer component which includes from 1 to 100 weight percent of a hydrophilic monomer, and from 0 to 99 percent by weight of at least one non-hydrophilic monomer and a polymeric colloid component which is non-dispersible in

aqueous solutions containing 0.5 weight percent or more of an inorganic salt. Therefore the product of Komatsu appears to anticipate the claimed invention.

Applicants additionally argue that emulsion polymers form films which results in relatively weak bonds, whereas the prior art requires large amounts of acrylic acid to provide a water-dispersible composition. While the prior art does teach a weight percentage of acrylic acid from 35% to 65%, Applicants' claimed invention teaches 1 to 100 weight percent of a hydrophilic monomer including acrylic acid. The prior art may objectively require "large amounts" of acrylic acid, as Applicants suggest, but Applicants' claimed invention teaches arguably much larger amounts of acrylic acid. Komatsu teaches a water-dispersible composition as a latex binder comprising a polymer component which includes from 1 to 100 weight percent of a hydrophilic monomer, and from 0 to 99 percent by weight of at least one non-hydrophilic monomer and a polymeric colloid component. Applicants' argument does not appear to distinguish the claimed invention from the prior art.

Regarding Applicants' second argument that emulsion polymerization techniques enable the production of high solids compositions, Examiner respectfully disagrees. It should be noted that Applicants do not claim a specific solids content. Applicants' disclosure appears to teach a solids content of most preferably from 10 to 25 percent (Applicants' specification, page 7 lines 15-20). Additionally, Applicants' Examples appear to disclose solids content from 12 to 16 percent. Although Applicants argue in paragraph 9 of the Declaration that '129 Eknoian patent has a solids content of 29.7%, Komatsu teaches a solids content of 17.9% which appears to be substantially similar to the claimed invention and the '129 Eknoian patent.

Applicants also argue differences in viscosities, specifically that the product of Komatsu has a viscosity of 500 cps whereas the '129 Eknoian patent has a viscosity of 136 cps. It should be noted that Applicants do not claim a specific viscosity nor does Applicants' specification disclose a viscosity. Applicants appear to argue a correlation between low viscosity and high solids content which is unique to the claimed invention. However, as set forth in the previous paragraph, the claimed polymer composition and the polymer composition in Komatsu appear to have substantially similar solids content. Additionally, while Komatsu teaches one embodiment with a viscosity of cps, in Examples 1-9 of Komatsu, the viscosity is variable between 30 cps and 700 cps depending on the manner of preparation. Specifically, Komatsu teaches a viscosity of 105 cps (Example 8), 65 cps (Example 5), and 230 cps (Example 3), which appear substantially similar to the '129 Eknoian viscosity.

Regarding Applicants third argument that the emulsion structure of the latex polymer enables the resin to quickly disperse in water, even when using relatively less hydrophilic monomers such as methacrylic acid, Examiner respectfully disagrees. Applicants are not claiming a rate of dispersibility. Both the claimed invention and the invention of Komatsu are dispersible in tap water and non-dispersible in aqueous solutions containing 0.5 weight percent or more of an inorganic salt. Although Komatsu may objectively require large amounts of extremely hydrophilic monomers such as acrylic acid, as Applicants suggest, Applicants' claimed invention teaches an amount of acrylic acid from 1 to 100 weight percent. According to Applicants' specification, the polymer composition may comprise a weight percent of acrylic acid much larger than that disclosed in Komatsu. Komatsu discloses a water-dispersible composition which comprises a substantially similar chemical composition and dispersibility as

the claimed polymer composition. Therefore, Komatsu appears to anticipate the claimed invention and dispersibility characteristics.

Claim Rejections - 35 USC § 103

7. Claims 8, 10, 13, 18-23 are rejected under 35 U.S.C. 103(a) as being obvious over Komatsu in view of Lau.

Regarding claims 8, 10, 13, 18-23, in the event it is shown that Komatsu does not teach a polymer composition formed by emulsion polymerization using a colloid component as a stabilizer, Lau teaches a similar composition suitable as a nonwoven binder comprising from 1 to 100 weight percent of a hydrophilic monomer, and from 0 to 99 percent by weight of at least one non-hydrophilic monomer and a polymeric colloid component, wherein the composition may be prepared by solution or emulsion polymerization (Lau, column 2 lines 27-52, column 4 lines 9-37, column 5 line 7 to column 6 line 11, column 8 lines 12-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to form the binder of Komatsu with the polymerization methods taught by Lau, as the method of Lau is an equivalent method of forming an emulsion binder for use as a nonwoven binder.

8. Claims 2-6, 9, 11, 12, 16, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lau, as applied to claims 8, 10, 13, 18-24 above, in view of USPN 5,976,694 to Tsai.

Regarding claims 2-6, 9, 11, 12, 16, and 25, Lau is silent with regards to specific properties of the non-woven material. Therefore, it would have been necessary and thus obvious

to look to the prior art for conventional materials. Tsai provides this conventional teaching showing that it is known in the water-dispersible fabric art to use wood pulp fibers having a length of less than 0.5 cm in an air-laid non-woven material comprising 70 to 85 percent by weight of fibers, the non-woven material having a basis weight of from 20 to 200 gsm and further comprising a binder add-on of from 2 to 50 percent by weight (Tsai, see entire document including column 6 lines 38-58, column 5 lines 40-44, column 7 lines 10-18, column 7 lines 30-50, Examples 10-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the non-woven material from Lau with the specific properties, as taught by Tsai, motivated by the expectation of successfully practicing the invention of Lau.

Regarding claim 11, the binder further comprises a lotion containing at least one ingredient selected from the group consisting of sodium chloride solution, preservatives, boric acid, bicarbonates, moisturizers, emollients, surfactants, humectants, alcohols, water, and fragrances (column 1 lines 7-13).

Regarding claim 12, the non-woven article further comprises at least 0.5 percent by weight of inorganic salt, or a mixture of inorganic salt (Lau, column 5 lines 43-56).

9. Claims 2-6, 9, 11, 12, 16, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu, as applied to claims 8, 10, 13, 18-23 above, in view of Tsai.

Regarding claims 2-6, 9, 11, 12, 16, and 25, Komatsu is silent with regards to specific properties of the non-woven material. Therefore, it would have been necessary and thus obvious to look to the prior art for conventional materials. Tsai provides this conventional teaching

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showing that it is known in the water-dispersible fabric art to use wood pulp fibers having a length of less than 0.5 cm in an air-laid non-woven material comprising 70 to 85 percent by weight of fibers, the non-woven material having a basis weight of from 20 to 200 gsm and further comprising a binder add-on of from 2 to 50 percent by weight (Tsai, see entire document including column 6 lines 38-58, column 5 lines 40-44, column 7 lines 10-18, column 7 lines 30-50, Examples 10-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the non-woven material from Komatsu with the specific properties, as taught by Tsai, motivated by the expectation of successfully practicing the invention of Komatsu.

Regarding claim 12, the non-woven article further comprises at least 0.5 percent by weight of inorganic salt, or a mixture of inorganic salt (Komatsu, column 4 lines 52-66).

10. Claims 2-6, 9, 11, 12, 16, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komatsu in view of Lau, as applied to claims 8, 10, 13, 18-23 above, and further in view of Tsai.

Regarding claims 2-6, 9, 11, 12, 16, and 25, Komatsu in view of Lau is silent with regards to specific properties of the non-woven material. Therefore, it would have been necessary and thus obvious to look to the prior art for conventional materials. Tsai provides this conventional teaching showing that it is known in the water-dispersible fabric art to use wood pulp fibers having a length of less than 0.5 cm in an air-laid non-woven material comprising 70 to 85 percent by weight of fibers, the non-woven material having a basis weight of from 20 to 200 gsm and further comprising a binder add-on of from 2 to 50 percent by weight (Tsai, see

entire document including column 6 lines 38-58, column 5 lines 40-44, column 7 lines 10-18, column 7 lines 30-50, Examples 10-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the non-woven material from Komatsu in view of Lau with the specific properties, as taught by Tsai, motivated by the expectation of successfully practicing the invention of Komatsu.

Regarding claim 12, the non-woven article further comprises at least 0.5 percent by weight of inorganic salt, or a mixture of inorganic salt (Komatsu, column 4 lines 52-66).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Y. Choi whose telephone number is (571) 272-6730. The examiner can normally be reached on Monday - Friday, 08:00 - 15:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Peter Y. Choi

May 7, 2007



ANDREW PIZIALI
PRIMARY EXAMINER